Docket No.: 420052000200
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Patrick SOON-SHIONG et al.

Application No.: 09/937,840 Confirmation No.: 7072

Filed: April 21, 2000 (Int'l) Art Unit: 1614

For: LONG TERM ADMINISTRATION OF PHARMACOLOGICALLY ACTIVE AGENTS Examiner: J. Anderson

AMENDMENT IN RESPONSE TO NON-FINAL OFFICE ACTION

MS Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

INTRODUCTORY COMMENTS

This is in response to the non-final Office Action dated April 4, 2007 (Paper No. Mail Date 20070313), for which a response was due on July 4, 2007. Filed herewith is a Petition and fee for a two-month extension of time, thereby extending the deadline for response to September 4, 2007. Accordingly, this response is timely filed. Reconsideration and allowance of the pending claims, as amended, in light of the remarks presented herein are respectfully requested.

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks/Arguments begin on page 8 of this paper.

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application:

Claims 1-74 (cancelled)

Claim 75 (new): A method of administering paclitaxel, comprising administering paclitaxel to a subject wherein the plasma level of paclitaxel in the subject is maintained at 0.01–0.05 μg/ml over a period of 7 days or more.

Claim 76 (new): The method of claim 75, wherein the plasma level of paclitaxel in the subject is maintained at 0.01-0.05 μg/ml over a period of two weeks or more.

Claim 77 (new): The method of claim 76, wherein the plasma level of paclitaxel in the subject is maintained at 0.01-0.05 μg/ml over a period of one month or more.

Claim 78 (new): The method of claim 75, wherein the paclitaxel is administered systemically.

Claim 79 (new): The method of claim 78, wherein the paclitaxel is administered orally.

Claim 80 (new): The method of claim 78, wherein the paclitaxel is administered intravenously.

Claim 81 (new): The method of claim 75, wherein the paclitaxel is administered locally.

Claim 82 (new): The method of claim 81, wherein the paclitaxel is administered with slow release delivery vehicles.

Claim 83 (new): The method of claim 75, wherein the paclitaxel is encapsulated in a colloidal dispersion system.

Claim 84 (new): The method of claim 83, wherein the colloidal dispersion system comprises nanocapsules.

Claim 85 (new): The method of claim 83, wherein the colloidal dispersion system comprises microspheres.

Claim 86 (new): The method of claim 83, wherein the colloidal dispersion system comprises liposomes or oil-in-water emulsions.

Claim 87 (new): The method of claim 75, wherein the paclitaxel is in polymer stabilized crystals.

Claim 88 (new): The method of claim 75, wherein the paclitaxel is administered continuously.

Claim 89 (new): The method of claim 75, wherein the subject is human.

Claim 90 (new): A method of administering paclitaxel comprising administering paclitaxel to a subject over a period of 7 days or more, wherein the amount of paclitaxel is about 1% to about 20% of the conventional dose of paclitaxel over the same period, and wherein a therapeutically effective plasma level of paclitaxel in the subject is maintained throughout the period of 7 days or more.

Claim 91 (new): The method of claim 90, wherein the method comprises administering paclitaxel to a subject over a period of two weeks or more, and wherein a therapeutically effective plasma level of paclitaxel in the subject is maintained throughout the period of two weeks or more.

Claim 92 (new): The method of claim 90, wherein the method comprises administering paclitaxel to a subject over a period of one month or more, and wherein a therapeutically effective plasma level of paclitaxel in the subject is maintained throughout the period of one month or more.

Claim 93 (new): The method of claim 90, wherein the amount of paclitaxel is about 1% to about 10% of the conventional dose of paclitaxel over the same period.

Claim 94 (new): The method of claim 93, wherein the amount of paclitaxel is about 1% to about 5% of the conventional dose of paclitaxel over the same period.

Claim 95 (new): The method of claim 90, wherein the paclitaxel is administered systemically.

Claim 96 (new): The method of claim 95, wherein the paclitaxel is administered orally.

Claim 97 (new): The method of claim 95, wherein the paclitaxel is used intravenously.

Claim 98 (new): The method of claim 90, wherein the paclitaxel is administered locally.

Claim 99 (new): The method of claim 98, wherein the paclitaxel is administered with slow release delivery vehicles.

Claim 100 (new): The method of claim 90, wherein the paclitaxel is encapsulated in a colloidal dispersion system.

Claim 101 (new): The method of claim 100, wherein the colloidal dispersion system comprises nanocapsules.

Claim 102 (new): The method of claim 100, wherein the colloidal dispersion system comprises microspheres.

Claim 103 (new): The method of claim 100, wherein the colloidal dispersion system comprises liposomes or oil-in-water emulsions.

Claim 104 (new): The method of claim 90, wherein the paclitaxel is in polymer stabilized crystals.

Claim 105 (new): The method of claim 90, wherein the conventional dose of paclitaxel is 135-175 mg/m^2 over a period of three weeks.

Claim 106 (new): The method of claim 90, wherein the paclitaxel is administered continuously.

Claim 107 (new): The method of claim 90, wherein the paclitaxel is administered over a period of less than one year.

Claim 108 (new): The method of claim 107, wherein the paclitaxel is administered over a period of less than three months.

Claim 109 (new): The method of claim 108, wherein the paclitaxel is administered over a period of less than one month.

Claim 110 (new): The method of claim 90, wherein the subject is human.

Claim 111 (new): A method of administering paclitaxel comprising regularly administering paclitaxel to a subject over a period of 7 days or more to achieve a therapeutic benefit, wherein the amount of paclitaxel is about 1% to about 10% of the conventional dose of paclitaxel over the same period.

Claim 112 (new): The method of claim 111, wherein a therapeutically effective plasma level of paclitaxel is maintained throughout the period of 7 days or more.

Claim 113 (new): The method of claim 111, wherein the amount of paclitaxel is about 1% to about 5% of the conventional dose of paclitaxel over the same period.

Claim 114 (new): The method of claim 111, wherein the paclitaxel is administered systemically.

Claim 115 (new): The method of claim 114, wherein the paclitaxel is administered orally.

Claim 116 (new): The method of claim 114, wherein the paclitaxel is administered intravenously.

Claim 117 (new): The method of claim 111, wherein the paclitaxel is administered locally.

Claim 118 (new): The method of claim 117, wherein the paclitaxel is administered with slow release delivery vehicles.

Claim 119 (new): The method of claim 111, wherein the paclitaxel is encapsulated in a colloidal dispersion system.

Claim 120 (new): The method of claim 119, wherein the colloidal dispersion system comprises nanocapsules.

Claim 121 (new): The method of claim 119, wherein the colloidal dispersion system comprises microspheres.

Claim 122 (new): The method of claim 119, wherein the colloidal dispersion system comprises liposomes or oil-in-water emulsions.

Claim 123 (new): The method of claim 111, wherein the paclitaxel is in polymer stabilized crystals.

Claim 124 (new): The method of claim 111, wherein the conventional dose of paclitaxel is 135-175 mg/m^2 over a period of three weeks.

Claim 125 (new): The method of claim 111, wherein the paclitaxel is administered continuously.

Claim 126 (new): The method of claim 111, wherein the paclitaxel is administered over a period of less than one year.

Claim 127 (new): The method of claim 126, wherein the paclitaxel is administered over a period of less than three months.

Claim 128 (new): The method of claim 127, wherein the paclitaxel is administered over a period of less than one month.

Claim 129 (new): The method of claim 111, wherein the subject is human.

REMARKS

Claims 15-17, 20-25, and 48-74 were pending in the present application. Claims 49, 53, 63, and 67 were withdrawn from consideration. By virtue of this response, claims 15-17, 20-25, and 48-74 have been cancelled, and new claims 75-129 have been added. Accordingly, claims 75-129 are currently under consideration.

Claim Amendment and Support

Applicants wish to express their kind appreciation to the Examiner for the courtesy of telephone call with Applicants' representative, Jian Xiao, confirming that new method claims added by way of claim amendment would be responsive to the Office Action and will be considered.

Support for the new claims can be found throughout the specification. Support for independent claim 75 can be found, for example, on page 17, lines 10-14 and page 18, lines 18-21. Support for independent claim 90 and its dependent claims 93-94 can be found, for example, on page 4, lines 11-14; page 8, line 23 to page 9, line 4; page 9, lines 18-19; and page 17, lines 10-19. Support for independent claim 111 and its dependent claims 112-113 can be found, for example, on page 8, line 23 to page 9, line 14; page 9, lines 18-19; and page 17, lines 10-19. Support for dependent claims 76-77 and 91-92 can be found, for example, on page 9, lines 18-19 and page 17, lines 10-14. Support for dependent claims 78-80, 95-97, and 114-116 can be found, for example, on page 5, lines 26-28. Support for dependent claims 81-82, 98-99, and 117-118 can be found, for example, on page 6, lines 4-5. Support for dependent claims 83-87, 100-104, and 119-123 can be found, for example, on page 6, lines 15-20. Support for dependent claims 88, 106, and 125 can be found, for example, on page 4, line 6. Support for dependent claims 89, 110 and 129 can be found, for example, on page 5, line 2. Support for dependent claims 107-109 and 126-128 can be found, for example, on page 9, lines 21-27. Support for dependent claims 105 and 124 can be found, for example, on page 7, line 27 to page 8, line 1. No new matter is added.

With respect to claim amendments and cancellation, Applicants have not dedicated or abandoned any unclaimed subject matter and moreover have not acquiesced to any rejections and/or

objections made by the Patent Office. Applicants expressly reserve the right to pursue prosecution of any presently excluded subject matter or claim embodiments in one or more future continuation and/or divisional application(s).

Claim Objections

Claims 16 and 55 are objected to under 37 CFR § 1.75(c), as allegedly being in an improper dependent form for failing to further limit the subject matter of a previous claim. Claim 16 is further objected to because the claim term "antiinfectives" is allegedly recited twice in the claim. Applicants respectfully traverse. Applicants further submit that claims 16 and 55 have been cancelled, thereby rendering the objections moot. Accordingly, Applicants respectfully request that the claim objections be withdrawn.

Claim Rejections – 35 U.S.C. § 112 (1st Paragraph)

Claims 15-17, 20-22, 25, 48, 50-52, 54-59, 62, and 64-74 are rejected under 35 U.S.C. § 112, first paragraph. The Examiner alleges that the claims fail to comply with the written description requirement because, while the specification exemplifies the drug paclitaxel, the claims in their broadest reasonable interpretation read on a dosage form comprising any compound. Claims 16, 22, 50-52, 55, 59, 64-66, all of which recite taxane or paclitaxel derivatives, are also rejected under 35 U.S.C. § 112, first paragraph. The Examiner alleges that the claims fail to comply with the written description requirement because, while the specification describes a few species of taxane (i.e., paclitaxel and docetaxel), it does not describe a sufficient number of species as to convey possession of the entire genera of taxane or paclitaxel derivatives.

Applicants respectfully traverse these rejections. Applicants further submit that the rejected claims have all been cancelled, thereby rendering the rejections moot. Applicants thus respectfully request that this rejection be withdrawn.

Furthermore, new claims 75-129 specifically recite the drug paclitaxel. Accordingly, Applicants respectfully submit that the ground for written description rejection is inapplicable to new claims 75-129.

Claim Rejections – 35 U.S.C § 112 (2nd Paragraph)

Claims 15-17, 20-25, 48, 50-52, 54-62, 64-66 and 68-74 are rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. The Examiner alleges that the term "conventionally administered amount" recited in the rejected claims is indefinite.

Applicants respectfully traverse this rejection. Applicants further submit that the rejected claims have all been cancelled, thereby rendering the rejection moot. Applicants thus respectfully request that this rejection be withdrawn.

Furthermore, the term "conventional dose" in the context of claims 90-129 is clear and definite, and the ground of claim indefiniteness is inapplicable to claims 90-129. As the Examiner has indicated in the April 4, 2007 Office Action, the conventionally administered dose of paclitaxel is known in the art. *See* Page 9, footnote 1 of the Office Action.

Claim Rejections – 35 U.S.C. § 102

Isokangas et al.

Claims 15-17, 20-23, 25, 48, 50-52, 55-60, 62, and 64-66 are rejected under 35 U.S.C. § 102(a) as allegedly being anticipated by Isokangas et al. (Lung Cancer, 1998, 20:127-133) in view of Desai et al. (U.S. Patent No. 6,096,331). Isokangas is cited as teaching administering a dose of 30 mg/m^2 paclitaxel over one hour following an initial induction dose of 135 mg/m^2 paclitaxel. Desai is cited as providing a conventionally administered dose of paclitaxel.

Applicants respectfully traverse this rejection. Applicants further submit that the rejected claims have all been cancelled, thereby rendering the rejection moot. Applicants thus

respectfully request that this rejection be withdrawn. Furthermore, as discussed below, Isokangas does not anticipate any of the new claims 75-129.

Claim 75 and its dependent claims (claims 76-89) are directed to a method of administering paclitaxel comprising administering paclitaxel to a subject wherein the plasma level of paclitaxel in the subject is maintained at 0.01-0.05 μg/ml over a period of 7 days or more. Isokangas does not disclose such a method. Specifically, Isokangas does not disclose that the plasma level of paclitaxel in a subject is maintained at 0.01-0.05 μg/ml over a period of 7 days or more.

Claim 90 and its dependent claims (claims 91-110) are directed to a method of administering paclitaxel comprising administering paclitaxel a subject over a period of 7 days or more, wherein the amount of paclitaxel is about 1% to about 20% of the conventional dose of paclitaxel over the same period, and wherein a therapeutically effective plasma level of paclitaxel in the subject is maintained throughout the period of 7 days or more. Isokangas does not disclose such a method. Specifically, Isokangas does not disclose delivering about 1% to about 20% of the conventional dose of paclitaxel over a period of 7 days or more. Nor does it disclose that a therapeutically effective plasma level of paclitaxel is maintained through out the period of 7 days or more.

Claim 111 and its dependent claims (claims 112-129) are directed to a method of administering paclitaxel comprising regularly administering paclitaxel to a subject over a period of 7 days or more to achieve a therapeutic benefit, wherein the amount of paclitaxel is about 1% to about 10% of the conventional dose of paclitaxel over the same period. Isokangas does not disclose such a method. Specifically, Isokangas does not disclose regularly delivering about 1% to about 10% of the conventional dose of paclitaxel over a period of 7 days or more.

Pazdur et al.

Claims 15-17, 20-22, 24-25, 48, 50-52, 55-59, 61-62 and 64-66 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Pazdur et al. (J. Natl. Cancer Inst., 1992, 84:

1781-1788) in view of Burstein et al. (Journal of Clinical Oncology, 2000, 18:1212-1219). Pazdur is cited as teaching administering docetaxel as a one hour infusion at a starting dose of 1 mg/m^2 per day for five consecutive days, every 21 days. Burstein is cited as providing the conventionally administered dose of docetaxel.

Applicants respectfully traverse this rejection. Applicants further submit that the rejected claims have all been cancelled, thereby rendering the rejection moot. Applicants thus respectfully request that this rejection be withdrawn. Furthermore, as discussed below, Pazdur does not anticipate any of the new claims 75-129.

Claim 75 and its dependent claims (claims 76-89) are directed to a method of administering paclitaxel, comprising administering paclitaxel to a subject wherein the plasma level of paclitaxel in the subject is maintained at 0.01-0.05 µg/ml over a period of 7 days or more. Pazdur does not disclose such a method. Specifically, Pazdur does not disclose a method of administering paclitaxel. Nor does it disclose that the plasma level of paclitaxel in a subject is maintained at 0.01-0.05 µg/ml over a period of 7 days or more.

Claim 90 and its dependent claims (claims 91-110) are directed to a method of administering paclitaxel comprising administering paclitaxel a subject over a period of 7 days or more, wherein the amount of paclitaxel is about 1% to about 20% of the conventional dose of paclitaxel over the same period, and wherein a therapeutically effective plasma level of paclitaxel in the subject is maintained throughout the period of 7 days or more. Pazdur does not disclose such a method. Specifically, Pazdur does not disclose a method of administering paclitaxel. Neither does it disclose maintaining a therapeutically effective plasma level of paclitaxel throughout the period of 7 days or more.

Claim 111 and its dependent claims (claims 112-129) are directed to a method of administering paclitaxel comprising regularly administering paclitaxel to a subject over a period of 7 days or more to achieve a therapeutic benefit, wherein the amount of paclitaxel is about 1% to about 10% of the conventional dose of paclitaxel over the same period. Pazdur does not disclose

such a method. Specifically, Pazdur does not disclose a method of administering paclitaxel. Nor does it disclose regularly delivering about 1% to about 10% of the conventional dose of paclitaxel over a period of 7 days or more.

Applicants respectfully request that the rejections under 35 U.S.C. § 102 be withdrawn.

Claim Rejections – 35 U.S.C. § 103(a)

Pazdur et al. in view of WO 98/53811

Claims 54 and 68 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Pazdur et al. and in further view of WO 98/53811.

Applicants respectfully traverse this rejection. Applicants further submit that claims 54 and 68 are cancelled, thereby rendering the rejection moot. Applicants thus respectfully request that this rejection be withdrawn. Furthermore, as discussed below, Pazdur and WO 98/53811, alone or in combination, do not render new claims 75-129 obvious.

Pazdur is discussed above. WO 98/53811 is cited as disclosing methods and compositions for administering taxanes orally to human patients. The reference shows exemplary dosing schedules of administering to a patient a daily dose of about 20-1000 mg/m^2 paclitaxel for 1-4 consecutive days every 2-3 weeks or about once a week. Page 23, lines 4-11 of WO 98/53811. It further discloses that, with the dosing schedule disclosed therein, therapeutic-level plasma concentrations of paclitaxel can be achieved and maintained over about a 24-hour period. Page 20, lines 4-5 of WO 98/53811.

By contrast, claim 75 and its dependent claims require that the presently claimed methods require that the plasma level of paclitaxel in a subject be maintained at 0.01-0.05 μg/ml over a period of 7 days or more. Neither WO 98/53811 nor Pazdur, alone or in combination, disclose such a method.

Claim 90 and its dependent claims require delivering about 1% to 20% of the conventional dose of paclitaxel over a period of 7 days or more and maintaining a therapeutically effective plasma level of paclitaxel through out the period of 7 days or more. Neither WO 98/53811 or Pazdur, alone or in combination, disclose such a method.

Claim 111 and its dependent claims require regularly administering about 1% to about 10% of the conventional dose of paclitaxel to a subject over a period of 7 days or more to achieve a therapeutic benefit. Neither WO 98/53811 nor Pazdur, alone or in combination, disclose such a method.

Accordingly, Applicants respectfully submit that neither Pazdur nor WO 98/53811, alone or in combination, discloses methods of claims 75-129. These references do not render the claimed dosing regime obvious.

Isokangas et al. in view of Lambert et al.

Claims 69-74 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Isokangas et al., and further in view of Lambert et al. (U.S. Patent No. 6,458,373).

Applicants respectfully traverse this rejection. Applicants further submit that claims 69-74 are cancelled, thereby rendering the rejection moot. Applicants thus respectfully request that this rejection be withdrawn. Furthermore, as discussed below, the cited references do not render new claims 75-129 obvious.

Isokangas is discussed above. Lambert is cited as disclosing emulsions comprising α-tocopherol and therapeutic drugs (such as paclitaxel). Lambert does not disclose the methods as presently claimed.

Accordingly, Applicants respectfully submit that neither Isokangas nor Lambert, alone or in combination, discloses the claimed methods and render the dosing regime as currently claimed in claims 75-129 obvious.

Withdrawal of rejections under 35 U.S.C. § 103 is respectfully requested.

Double Patenting Rejections

Claims 15-17, 20-25, 48, 50-52, 55, 62 and 64-66 are rejected on the ground of nonstatutory obviousness-type double patenting as allegedly being unpatentable over claims 1, 4, 7, 10-11 and 14 of U.S. Patent No. 6,753,006. Claims 15-17, 20-25, 48, 50-52, 55-62 and 64-66 are rejected on the ground of nonstatutory obviousness-type double patenting as allegedly being unpatentable over claims 22, 31-33, 36, 39, 48 and 51 of U.S. Patent No. 6,096,331. Applicants respectfully traverse these rejections. Applicants further submit that the rejections are moot due to cancellation of the rejected claims.

Withdrawal of the double patenting rejections is respectfully requested.

CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket no. 420052000200. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Dated: September 4, 2007

Respectfully submitted,

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